

Nuclear Regulatory Commission

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Telephone: 301/415-8200 -- E-mail: opa@nrc.gov

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"NUCLEAR ENERGY AND ECONOMIC COMPETITION:

THE NRC PERSPECTIVE"

BY

DR. SHIRLEY ANN JACKSON, CHAIRMAN

U.S. NUCLEAR REGULATORY COMMISSION

KEYNOTE ADDRESS TO THE

NUCLEAR ENERGY INSTITUTE

FUEL CYCLE '97 CONFERENCE

ATLANTA, GEORGIA

APRIL 7, 1997

Good morning ladies and gentlemen. I am pleased to be here today to address the Nuclear Energy Institute Fuel Cycle '97 Conference.

INTRODUCTION:

I know that your conference over the next three days will focus on many specific regulatory, economic, and technical issues of concern to those of you involved in the nuclear fuel cycle. Although I know that these specific issues, and their impact on your businesses and responsibilities, may be of greatest concern to you, I am pleased to see that the first session this morning is taking a broader look at the impact of the restructuring of the electric power industry on the nuclear industry worldwide.

Companies that are regulated do their business planning, not only within the context of market opportunities, but within the framework of the regulatory environments in which they operate. It is important, therefore, that regulators are straightforward and clear about what the regulatory requirements are, and how they might change. It also is important that regulators themselves interact, and coordinate their actions, within the law and their independent functions, as much as possible, to avoid duplicative or conflicting regulation. I have been asked to begin this session by sharing the views of the U.S. Nuclear Regulatory Commission (NRC) on electric power industry restructuring, from the unique perspective of nuclear safety regulation.

Economic deregulation is bringing significant change to the electric power industry, but there are developments that may affect you in the nuclear fuel cycle arena directly. Let me take a few minutes to talk about some of the emerging issues that affect the nuclear fuel cycle, and that intersect with the NRC.

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WEAPONS PLUTONIUM STORAGE AND DISPOSITION:

On January 14, 1997, the Department of Energy (DOE) issued its Record of Decision for the Storage and Disposition of Weapons-Usable Fissile Materials. This, of course, is an issue that is of particular interest to those of you at this conference. In its Record of Decision, DOE stated that it has decided to implement a program for the safe and secure storage of weapons-usable fissile material (plutonium and highly enriched uranium), and a strategy for the disposition of surplus weapons-usable plutonium. DOE's strategy for the disposition of surplus plutonium is to pursue a dual approach that allows for (1) immobilization of surplus plutonium in glass or ceramic material, for disposal in a geologic repository; and, (2) burning some of the surplus plutonium as mixed oxide (MOX) fuel in existing domestic commercial reactors. DOE also is considering the feasibility of burning MOX fuel in CANDU reactors.

The Nuclear Regulatory Commission has a great interest in this program because it impacts at least three major areas that the NRC regulates -- commercial nuclear power reactors, fuel cycle facilities, and the high-level radioactive waste disposal facility. The NRC has been active in an evaluation of the proposed plutonium disposition alternatives since DOE's Record of Decision was issued. On January 27 of this year, the full Commission was briefed by the DOE on its plans for plutonium disposition. The DOE's strategy is predicated upon actions by the Russian government.

On February 21 and March 26, 1997, the NRC hosted technical exchanges in which representatives of the nuclear industry, including NEI representatives, made presentations on the use of MOX fuel in commercial reactors, and the fabrication of MOX fuel. Last month, I toured the DOE Fuels and Materials Examination Facility (FMEF) located on the Hanford reservation in the State of Washington. This facility is one of four that DOE has evaluated for possible use as the MOX fuel fabrication facility. Hanford also is one of the two key sites under consideration for the immobilization option, as well.

Clearly, the Commission recognizes the importance of this program to this country and to other nations around the world, as well as the need to carry out the broader goals and objectives of the program successfully. After needed legislative clarification, the NRC intends to carry out our regulatory responsibilities in a manner that will avoid unnecessary delays or costs, but will be fully protective of public health and safety.

U.S. ENRICHMENT CORPORATION:

Another area of particular interest to this group began with the Energy Policy Act of 1992, which established the U.S. Enrichment Corporation (USEC) to operate the DOE gaseous diffusion plants in Piketon, Ohio, and Paducah, Kentucky. The Energy Policy Act of 1992 required the NRC to establish standards that would govern the gaseous diffusion uranium enrichment facilities owned by the Department of Energy (DOE). The Act also required that the Commission establish a certification process to ensure that the U.S. Enrichment Corporation (USEC) complies with those established standards.

As required by the Energy Policy Act, the NRC issued regulatory standards entitled "Certification of Gaseous Diffusion Plants," (10 CFR Part 76) on September 23, 1994. A complete USEC application for certification was received by the NRC on September 15, 1995. A proposed NRC certification decision was prepared and issued on September 19, 1996, and the actual certificates were issued to the USEC on November 26, 1996.

On March 3, 1997, the Nuclear Regulatory Commission officially assumed regulatory jurisdiction, from the DOE, over the USEC operations at the gaseous diffusion uranium enrichment plants at Paducah, Kentucky and Piketon, Ohio.

USEC PRIVATIZATION:

The next major milestone for the USEC was set into motion by the passage of the "The USEC Privatization Act," in April of 1996. This Act provides for the USEC to become a private corporation,

and for a five-year certification cycle. The USEC currently is awaiting approval by the Administration to move forward with privatization.

The private sector entity that purchases the assets of the USEC will be responsible for the operation of the two gaseous diffusion plants, and the development, by the USEC, of any new uranium enrichment processes. The Act prohibits the issuance of a certificate of compliance to that entity if the Commission determines that:

- (1) The entity is owned, controlled, or dominated by an alien, a foreign corporation, or a foreign government; or
- (2) Issuance of a certificate would be inimical to the common defense and security of the United States; or
- (3) Issuance of a certificate would be inimical to the maintenance of a reliable and economical domestic source of enrichment services.

The NRC staff submitted, for Commission approval, on December 19, 1996, SECY-96-258, "Direct and Final Rulemaking: USEC Privatization Act - Conforming Changes and Revision to the NRC Enforcement Policy (NUREG-1600)." With this paper, the staff proposed amendments to 10 CFR Parts 2, 40, 70 and 76 to bring them into conformance with the statutory requirements of the Act. The requirements for prohibition of issuance of a certificate, if the Commission makes any of the determinations described above, were proposed for incorporation as 10 CFR Part 76, Section 76.22, entitled "Ineligibility of Certain Applicants." The Commission approved this direct and final rulemaking.

The issuance of the initial USEC certification was based upon a finding of compliance with NRC standards to protect the common defense and security. Subsequent recertification of the USEC, or certification of a USEC successor, will be based on the submission of changes to the initial application, and a similar review process. This review will include the Commission's determination on foreign ownership, control or influence, the USEC's implementation of the Compliance Plans, and accumulated regulatory experience. The staff is preparing a standard review plan for recertification of the gaseous diffusion plants.

The NRC and the USEC are coordinating activities to ensure that the Privatization Act requirements are met, and to facilitate a smooth transition from operation as a government corporation to operation as a private corporation.

HIGH-LEVEL NUCLEAR WASTE:

One area about which all of us are concerned is the storage and disposal of high level nuclear waste. A satisfactory resolution of this issue is essential to the continued role of nuclear energy in this nation's overall energy mix. The Congress currently is considering nuclear waste storage and disposal legislation which would provide for the development of a centralized interim storage facility, as well as continued development of a deep geologic repository for disposal of high-level nuclear waste. The NRC supports an integrated national high-level nuclear waste management plan, with three fundamental elements -- interim on-site storage; centralized interim off-site storage; and deep geologic disposal of high-level nuclear waste, primarily spent fuel; together with a transportation mechanism to tie the three together. However, we believe that the overall success of this country's high-level waste management program is dependent on finding a solution to the permanent disposal of high-level nuclear waste.

We already are examining our existing licensing capabilities and staff resources, relative to what would be required if we were called upon to license an interim centralized storage facility, as well as a deep geologic disposal facility. The NRC has issued Certificates of Compliance for several spent fuel storage casks which could be considered in the design of such a centralized storage facility.

I am confident that we can carry out, in a timely manner, the mandate of the Congress for the licensing

of both an interim centralized storage facility as well as a deep geologic disposal facility, if reasonable schedules are established, and adequate resources are provided by the Congress. What is important now is that a decision be made as soon as possible on the direction of the Nation's high-level nuclear waste program, so that the nuclear power industry, the NRC and DOE can plan accordingly.

RESTRUCTURING OF THE ELECTRIC POWER INDUSTRY:

Having focused on some specific issues of interest to those of you associated with the nuclear fuel cycle, let me now turn to the broader issue of economic deregulation and restructuring of the electric power industry, and the NRC focus.

I think we would all agree that, when the Energy Policy Act of 1992 was passed, with provisions that enabled wholesale competition in electricity generation, most of us could not have predicted the speed with which the moves from wholesale competition to retail competition would occur. Orders 888 and 889 issued by the Federal Energy Regulatory Commission (FERC), and FERC's recent merger policies were major enabling actions for the economic deregulation of retail power markets.

The change to a competitive market for the electric power industry is certain to have long-term and far reaching consequences on how the nation produces and uses energy. This change will create some interesting challenges for the nuclear power industry. These issues include: safe nuclear operations, electrical grid reliability, availability of funds for decommissioning, and stranded costs. I would like to address these issues from the NRC perspective.

The NRC is not an economic or rate regulator, and you will be hearing from people this morning who do play an important role in those areas. However, the NRC, as the government agency responsible for the safety regulation of the nuclear industry, has an important function during this transition to a competitive market, and the challenges it poses to the nuclear power industry. In this changing business environment, as organizations restructure internally, as ownership changes, as mergers occur, and as utilities work to control and reduce costs, the NRC must understand the effect on nuclear safety of these changes to the business environment. The structural changes and economic uncertainties that are driven by regulatory and market forces will determine how, and in what form, nuclear electric generators will continue to operate as economic deregulation continues to unfold. It is not the role of the NRC to dictate how the rules and legislative mandates undergirding economic deregulation change, nor is it our responsibility to prescribe how the electric power industry restructures. It is however, our responsibility to ensure that, as the business environment changes, economic pressures do not erode nuclear safety. We must do our job to see that nuclear electric generators continue to maintain high safety standards, with sufficient attention and resources devoted to nuclear operations, and with decommissioning funding secure.

SAFE NUCLEAR OPERATIONS:

Assessment of Performance

The NRC traditionally has relied on its inspection and plant

assessment programs to identify any adverse trends in safety performance. Based on inspection program results, plant performance reviews, and other evaluative mechanisms, the NRC can take action it deems appropriate to protect public health and safety. In the current economic environment, with new business arrangements, competition, and economic constraints, it is imperative that our assessment mechanisms detect any problems early.

While the overall safety performance of the U.S. nuclear power industry continues to improve, we have seen events at several reactor sites which have signaled to us that there is a need for heightened concern. An NRC special independent safety assessment of the Maine Yankee Nuclear Station concluded that, while overall performance at the plant was adequate for continued operation, there were a number of significant deficiencies. These deficiencies stemmed from two closely related root causes. The first was economic pressure to be a low-cost energy producer, which limited the resources available for corrective actions and plant improvements. The second was a failure to identify and to correct promptly problems

arising in areas that management viewed, not always correctly, as having low safety significance.

The Commission has taken some action to respond to these signals. To ensure that the NRC can detect any safety degradations at other facilities, the staff has been asked to examine measures to identify plants where economic stress may be impacting safety. The NRC also has issued for public comment a paper entitled, "Establishing and Maintaining a Safety Conscious Work Environment." The paper includes as "evidence of an emerging adverse trend" the following example: "cost-cutting measures at the expense of safety considerations."

The safety performance of all nuclear power plants is evaluated using licensing information, inspection results, operating experience, performance indicators, enforcement actions, and assessments of the licensees' effectiveness in identifying and correcting problems. NRC Senior Management Meetings (SMMs) are conducted semiannually to ensure that the NRC is focusing its resources properly on facilities that most need regulatory attention, based on safety performance, and the issues of greatest safety significance. The result of the Senior Management Meeting discussions is a proposed list of facilities that have demonstrated weaknesses that warrant increased NRC attention, although such facilities always must operate in a manner that adequately protects public health and safety.

To improve the effectiveness of the Senior Management Meeting process, the NRC staff was asked to identify objective, meaningful, "leading" performance indicators of nuclear plant performance, and to identify an enhanced approach for monitoring and assessing licensee corrective actions. In the Summer of 1996, I asked the NRC staff to commission an outside study to evaluate the SMM process, to suggest improvements to the timeliness and thoroughness of plant safety assessments, to recommend performance indicators based on objective data, and to define a methodology for assessing management and operational effectiveness.

The product was the Arthur Andersen Assessment of the Senior Management Meeting Process and Information Base. The report makes several recommendations, and proposes a methodology for using existing performance indicators in reaching SMM decisions. The Commission has tasked the NRC staff to evaluate the Arthur Anderson report in order to develop a methodology to more effectively use existing performance indicators in the NRC's decision making processes, with new risk-based indicators being phased in as they are developed.

Electrical Grid Reliability

Another area of concern to the NRC is electrical grid reliability, or security. NRC reviews in recent years have left no doubt that a Station Blackout at a nuclear power station is a major contributor to reactor core damage frequency. Events of this type are defined as Loss-of-Offsite-Power events, coupled with the inability of the onsite emergency diesel generators to provide power to necessary plant safety equipment. Although Station Blackout events have been extremely rare to date, there have been a number of Loss-of-Offsite-Power events. There also have been instances where diesel generators at plants have not been operable for periods of time. Therefore, the possibility of a Station Blackout is of concern to the NRC.

In 1996, two electrical disturbances (within a five-week period) on the Western Grid caused 190 plants to trip off-line, including several nuclear units. Nuclear plants are designed to withstand unexpected trips. However, events of this type cause unnecessary challenges to plant safety systems. Of course, the nuclear plants themselves are an important element of maintaining electrical network stability.

In reviewing these events, the Western Systems Coordinating Council listed the following contributing factors: high Northwest transmission loads; equipment out of service; inadequate maintenance of right-of-way; operation in a condition in which a single failure would overload parallel lines, triggering cascading outages; communication failures to neighboring utilities, prior to the disturbances; and no response to earlier events.

Therefore, from the perspective of a nuclear safety regulator, the NRC is convinced that economic deregulation must proceed with a sensitivity to, and an understanding of, the vulnerability of nuclear

plants to Loss-of-Offsite-Power events. This means that transmission network governance structures must reflect that standards of performance, operational criteria, and training of personnel are critical oversight issues, which all must be factored in, and properly addressed, as deregulation proceeds. Whatever form network governance structures assume, their authority needs to be strong enough to assure that these considerations are enforced.

Although grid reliability is a voluntary function under the North American Electric Reliability Council and the regional councils, federal oversight currently is located at the Federal Energy Regulatory Commission (FERC), and at the Department of Energy (DOE). The DOE has created a working advisory committee on the reliability of the U.S. electric system. NRC has been coordinating with the DOE, and will remain abreast of this effort, and will participate as appropriate.

This month the Commission has scheduled two public meetings on aspects of electric power industry restructuring. The first meeting, on April 23, 1997, will focus on Grid Performance and Reliability, and the second meeting, on April 24, 1997, will address Electric Utility Restructuring, and will include a discussion of independent system operators (ISOs). These meetings will bring together representatives of the nuclear power industry, as well as economic regulators, from both the federal and state governments. Our goal is for the Commission, and the public, to have an opportunity to gain an understanding of where we are on the road to economic deregulation and industry restructuring. More specifically the goal of the NRC is to explore the safety questions, and to ensure that we are taking the right actions, at the right time, in the appropriate manner.

DECOMMISSIONING FUNDING:

Another important concern for the NRC as electric power industry deregulation proceeds, is the availability of adequate decommissioning funding for nuclear plants, whether they operate to the end of their license terms, or shut down prematurely. Moreover, since deregulation may change the economic umbrella for some of our licensees, the NRC may need to monitor their financial qualifications more closely.

Most electric power companies have been regulated economically by the States through their Public Utility Commissions (PUCs). In initiating plans to deregulate these entities, the states and state PUCs have responded to pressures from consumers and others for lower electricity rates by developing programs that, ultimately, will provide customers with a choice of suppliers for their electricity service. As these changes unfold, it is critical that the NRC understand the changes and that, as appropriate, we provide an understanding of safety concerns to the agencies responsible for economic regulatory decisions. One of my initiatives has been to foster increased staff-level contacts between the NRC, as a health and safety regulator, and federal and State economic regulators (including FERC and NARUC), so that we can share thoughts about our respective roles.

The NRC is aware of the many options being discussed in the States to accomplish deregulation. For example, generation, transmission, and distribution assets may be spun off into subsidiaries or fully separate companies (e.g., into "GENCOs," "TRANSCO," and "DISCOs").

We expect to see a variety of hybrid ownership arrangements that go beyond the current, typically geographically defined, vertically integrated structures. States and the Federal Energy Regulatory Commission (FERC) are developing a variety of approaches to address the problem of above-market or "stranded" costs, including some nuclear plant capital and decommissioning costs. Remedies being considered include exit fees for customers leaving a company's system, transmission access fees for new bulk electricity suppliers, and other transmission or "wires" charges. In some States, nuclear plant owners have been allowed to accelerate the depreciation of their plants, so that by the time full retail competition arrives, the capital costs of some nuclear plants will have been fully amortized. Companies also are exploring securitization of stranded costs, in those states where the remedies such as exit fees, and transmission access fees have been established.

Although it is not the responsibility of the NRC to determine how nuclear "stranded" costs (assets) should be addressed by state public utility commissions or state and Federal legislatures, it is our

responsibility to make clear that it is essential that our power reactor licensees continue to have sufficient resources to operate and decommission their plants safely. That responsibility includes taking regulatory action, where appropriate, if the issues lie within our jurisdiction, and, if warranted, to weigh in on legislative initiatives under consideration by the Congress.

In order to ensure NRC readiness to respond to issues flowing from restructuring, I initiated a reevaluation of NRC policy regarding decommissioning funding in the Fall of 1995. The NRC issued an advance notice of proposed rulemaking (ANPR) in April 1996, seeking additional information on electric utility restructuring. The ANPR also explained that some additional decommissioning funding assurance might be needed for those power reactor licensees no longer subject to rate regulation by FERC or the State regulatory commissions.

NRC decommissioning regulations already have some built-in capability to address rate deregulation. Currently, our regulations allow only licensees meeting the NRC definition of "electric utility" to use the external sinking fund method of decommissioning funding assurance. Investor-owned utilities, including generation or distribution subsidiaries, public utility districts, municipalities, rural electric cooperatives, and State and Federal agencies, including associations of any of the foregoing, are included within the meaning of "electric utility." Power reactor licensees that are no longer considered "electric utilities", within the current NRC definition, will be required to provide some other method of assurance, such as a letter of credit or surety bond, for any unfunded balance of decommissioning costs.

As indicated in the ANPR, the NRC believes that additional regulatory measures may be required. Regulatory changes might include eliminating any ambiguities in the NRC definition of "electric utility," and taking account of alternative methods of providing assurance of decommissioning funding -- for example, pooled insurance, if available, or accelerated funding of decommissioning. Changes also may be required in reporting requirements with respect to decommissioning funding. In light of the comments received in response to the ANPR, the NRC staff currently is developing a proposed rule, which is expected to be before the Commission for consideration in May, 1997.

The NRC also has issued a Draft Policy Statement on the Restructuring and Economic Deregulation of the Electric Utility Industry. Standard Review Plans (SRPs) have been drafted in the areas of financial qualifications, decommissioning funding assurance, and antitrust reviews. These SRPs were issued for public comment on December 27, 1996. The staff currently is finalizing these documents, with consideration of public comments.

The policy guidance includes a discussion of our planned approach to future reviews. Under the planned approach, the NRC will: continue to conduct financial qualifications, decommissioning funding, and antitrust reviews; identify all owners, indirect as well as direct, of nuclear power plants; evaluate the relative responsibilities of power plant co-owners/co-licensees; and reevaluate our regulations for their adequacy to address changes resulting from rate deregulation.

Because of the complexity of the proposed new business arrangements, and because of our concern about the timing of asset divestiture in relation to rate deregulation, we issued an administrative letter on June 21, 1996, informing licensees of their obligation, under our regulations, to report to the NRC any changes in ownership arrangements that would constitute a direct or indirect transfer of the license. The letter included a reminder of our licensees' responsibility to advise us promptly of any information bearing on financial qualifications and the assurance of decommissioning funding.

The current regulatory framework provides us the authority to obtain the information we need in order to determine whether any restructuring actions are creating problems in operational safety, or in financial assurance for decommissioning. The issue we face is how to further strengthen our capabilities in these areas in response to rapidly evolving state and federal initiatives. As the ANPR and Policy Statement actions indicate, we intend to monitor these issues closely, to take whatever action is required in specific cases, and, as necessary, to modify our regulatory framework, including the promulgation of a rule on decommissioning funding.

As I have stated, it is not the responsibility of the NRC to determine the structure of the electric power

industry. It is important that the NRC not be influenced in making safety regulatory decisions by the need to lower the cost of operating a nuclear plant. However, it is the responsibility of the NRC to meet fully its health and safety mission within the most efficient and effective regulatory framework possible -- one that is efficient and effective for both the NRC and the nuclear energy industry. The NRC and the nuclear energy industry have been working together to remove unnecessary regulatory requirements through such programs as conversion to improved Standard Technical Specifications for nuclear power plants, marginal-to-safety rule changes, and the implementation of Regulatory Review Group recommendations. These recommendations include expedited review of cost-beneficial licensing actions, and the development of guidelines that would permit licensees to implement changes to, or reduce commitments in, quality assurance programs, emergency preparedness plans, and security plans without prior NRC review and approval, as long as the underlying regulations are met. We have continued the movement toward risk-informed, performance-based regulation through the development of a PRA Regulatory Guide, PRA Standard Review Plan, and pilot processes for potential risk-informed regulation. This will assist the NRC and nuclear licensees in focussing their resources on the most safety-significant aspects of nuclear operations, while maintaining safety defense-in-depth. We will continue to identify opportunities for improvements to the regulatory process and framework.

In closing, let me reiterate that the NRC will continue to take seriously its responsibility as a safety regulator. I firmly believe that ensuring safety is in no way inconsistent with economic deregulation and competition. My own view is that adequate protection of public health and safety is entirely compatible with a deregulated environment, provided economic restructuring of the electric power industry addresses what is necessary for that protection. What is essential is that those responsible for economic deregulation recognize the safety implications of change, and that those of you in the nuclear energy industry recognize that there are no economic short cuts to safely operated, economically viable nuclear generation. The many players who have a role in the interesting and challenging environment of electric power industry restructuring -- including the NRC as safety regulator, FERC and the State regulatory commissions as rate regulators, and you in the industry -- must work together, and must understand each other's concerns in order to ensure that we will continue to enjoy the benefit of safely operated, soundly regulated nuclear-generated electricity, along with the economic benefits of deregulation.

Thank you for the opportunity to address you. I wish you a very successful conference. I will be happy to respond to your questions.

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payments that otherwise could be made under this part may be withheld to the extent provided for in part 12 of this title.

(c) Any remedies permitted CCC under this part shall be in addition to any other remedy, including, but not limited to criminal remedies, or actions for damages in favor of CCC, or the United States, as may be permitted by law.

(d) Absent a scheme or device to defeat the purpose of the program, when an owner loses control of CRP acreage due to foreclosure and the new owner chooses not to continue the contract according to § 1410.51, refunds shall not be required from any participant on the contract.

(e) Crop insurance requirements in part 1405 of this chapter apply to all acreage initially enrolled after October 12, 1994, as determined by the Deputy Administrator.

(f) Land enrolled in CRP shall be classified as cropland for the time period enrolled in CRP and, after the time period of enrollment, shall be removed from such classification upon a determination by the county committee that such land no longer meets the conditions identified in part 718 of this title.

(g) Research projects may be proposed by the State committee and authorized by the Deputy Administrator to address defined conservation or land use problems, water quality issues, or wildlife habitat. The research projects must include objectives that are consistent with this part, involve land that otherwise meets required eligibility criteria, provide beneficial information on economically and environmentally sound agricultural practices, not adversely affect local agricultural markets, and be conducted and monitored by a bona fide research entity.

§ 1410.63 Permissive uses.

Unless otherwise specified by the Deputy Administrator, no crops of any kind may be planted or harvested from designated CRP acreage during the contract period.

§ 1410.64 Special concurrence requirements for certain functions

In establishing policies, priorities, and guidelines, FSA shall obtain the concurrence of the NRCS at national, State, and local levels.

§ 1410.65 Paperwork Reduction Act assigned numbers.

The Office of Management and Budget has approved the information collection requirements contained in these

regulations under provisions 44 U.S.C. Chapter 35 and OMB number 0560-0125 has been assigned.

Signed at Washington, DC, on September 17, 1996.

Bruce R. Weber,

Acting Administrator, Farm Service Agency,
and Acting Executive Vice President,
Commodity Credit Corporation.

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NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

Draft Policy Statement on the Restructuring and Economic Deregulation of the Electric Utility Industry

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft Policy Statement request for public comment.

SUMMARY: The NRC is seeking comment on the draft statement of policy regarding its expectations for, and intended approach to, its power reactor licensees as the electric utility industry moves from an environment of rate regulation toward greater competition. The NRC is concerned that rate deregulation and disaggregation resulting from various restructurings involving power reactor licensees could have adverse effects on the protection of public health and safety.

DATES: The public is invited to submit comments on this draft Policy Statement by December 9, 1996. Comments received after this date will be considered if it is practical to do so, but assurance of consideration cannot be given except as to comments received on or before this date. On the basis of the submitted comments, the Commission will determine whether to modify the draft Policy Statement before issuing it in final form.

ADDRESSES: Mail comments to: Secretary, U.S. Nuclear Regulatory Commission, Washington DC 20555, Attention: Docketing and Service Branch.

Deliver Comments to: 11555 Rockville Pike, Rockville, Maryland, between 7:45 a.m. and 4:15 p.m., Federal workdays.

Examine copies of comments received at: The NRC Public Document Room, 2120 L Street NW (Lower Level), Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert S. Wood, Office of Nuclear Reactor Regulation, U.S. Nuclear

Regulatory Commission, Washington, DC 20555, telephone (301) 415-1255, e-mail RSW1@nrc.gov; or, for the antitrust aspects of this policy statement, William Lambe, telephone (301) 415-1277, e-mail WML@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Purpose

The purpose of this draft policy statement is to provide a discussion of the NRC's concerns regarding the potential safety impacts on NRC power reactor licensees resulting from the economic deregulation and restructuring of the electric utility industry and the means by which NRC intends to address those concerns. This draft policy statement recognizes the changes that are occurring in the electric utility industry and the importance these changes may have for the NRC and its licensees. The NRC's principal mission is to regulate the Nation's civilian use of byproduct, source, and special nuclear materials to ensure adequate protection of the public health and safety, to promote the common defense and security, and to protect the environment. As part of carrying out this mission, the NRC must monitor licensee activities and any changes in licensee activities, as well as external factors that may affect the ability of individual licensees to safely operate and decommission licensed power production facilities.

II. Background

The electric utility industry is entering a period of economic deregulation and restructuring which is intended to lead to increased competition in the industry. Increasing competition may force integrated power systems to separate (or "disaggregate") their systems into functional areas. Thus, some licensees may divest electrical generation assets from transmission and distribution assets by forming separate subsidiaries or even separate companies for generation. Disaggregation may involve utility restructuring, mergers, and corporate spin-offs that lead to changes in owners or operators of licensed power reactors and may cause some licensees, including owners, to cease being an "electric utility" as defined in 10 CFR 50.2.¹ Such changes may affect the

¹ Section 50.2 defines "electric utility" as "any entity that generates or distributes electricity and which recovers the cost of this electricity, either directly or indirectly, through rates established by the entity itself or by a separate regulatory authority. Investor-owned utilities, including generation and distribution subsidiaries, public utility districts, municipalities, rural electric

Continued

licensing basis under which the NRC originally found a licensee to be financially qualified to construct, operate or own its power plant, as well as to accumulate adequate funds to ensure decommissioning at the end of reactor life.

Rate regulators have typically allowed an electric utility to recover prudently incurred costs of generating, transmitting, and distributing electric services. Consequently, in 1984, the NRC eliminated financial qualifications reviews at the operating license stage for those licensees that met the definition of "electric utility" in 10 CFR 50.2 (49 FR 35747; Sept. 12, 1984). The NRC based this decision on the assumption that "the rate process assures that funds needed for safe operation will be made available to regulated electric utilities" (49 FR at 35750). However, the NRC recognized that financial qualifications reviews for operating license applicants might be appropriate in particular cases where, for example, "the local public utility commission will not allow the total cost of operating the facility to be recovered through rates" (49 FR at 35751). The Commission also has expressed potential concern with various State proposals to implement economic performance incentive programs.²

In its 1988 decommissioning rule, the NRC again distinguished between electric utilities and other licensees by allowing "electric utilities" to accumulate funds for decommissioning over the remaining terms of their operating licenses. NRC regulations require its other licensees (with the added exception of State and Federal government licensees of certain facilities) to provide funding assurance for the full estimated cost of decommissioning, either through full up-front funding or by some allowable guarantee or surety mechanism.

A discussion of the current and future NRC review process will be contained in two Standard Review Plans that the NRC plans to issue—one for financial qualifications and decommissioning funding assurance reviews and the other for antitrust reviews. In addition, the

NRC issued an Administrative Letter on June 21, 1996, that informed power reactor licensees of their ongoing responsibility to inform, and obtain advance approval from the NRC for any changes that would constitute a transfer of the license, directly or indirectly, through transfer of control of the NRC license to any person pursuant to 10 CFR 50.80. This administrative letter also reminded addressees of their responsibility to assure that information regarding a licensee's financial qualifications and decommissioning funding assurance which may have a significant implication for public health and safety is promptly reported to the NRC.

II. Policy Statement

The NRC is concerned with the potential impact of utility restructuring on public health and safety. The NRC has not found a consistent relationship between a licensee's financial health and general indicators of safety such as the NRC's Systematic Assessment of Licensee Performance (SALP). Thus, the NRC has traditionally relied on its inspection process to indicate when safety performance has begun to show adverse trends. Based on inspection program results, the NRC can take appropriate action, including, ultimately, plant shutdown, to protect public health and safety. However, if a plant is permanently shut down, that plant's licensee(s) may no longer have access to adequate revenues or other sources of funds for decommissioning the facility. If rate deregulation and organizational divestiture occur concurrently with the shutdown of a nuclear plant either by NRC action or by a licensee's economic decision, that licensee may not be able to provide adequate assurance of decommissioning funds. Thus, the NRC believes that its concerns with deregulation and restructuring lie primarily in the area of adequacy of decommissioning funds, although it is also concerned with the potential effect that economic deregulation may have on operational safety.

As the electric utility industry moves from an environment of substantial economic regulation to one of increased competition, the NRC is concerned about the pace of restructuring and rate deregulation. Approval of organizational and rate deregulation changes may occur rapidly without the NRC's knowledge. The pace and degree of such changes could affect the factual underpinnings of the NRC's previous conclusions that power reactor licensees can reliably accumulate adequate funds for operations and decommissioning

over the operating lives of their facilities. For example, rate deregulation could create situations where a licensee that previously qualified as an "electric utility" under 10 CFR 50.2 may, at some point, no longer qualify for such status. At that point, the NRC may require licensees to submit proof pursuant to 10 CFR 50.33(f)(4) that they remain financially qualified and will require them to meet the more stringent decommissioning funding assurance requirements of 10 CFR 50.75 that are applicable to non-electric utilities.

Although new and unique restructuring proposals will necessarily involve ad hoc reviews by the NRC, the Commission will exercise direct oversight of such reviews to maintain consistent NRC policy toward new entities. The NRC has considered mergers, the formation of holding companies, and the outright sales of facilities, or portions of facilities, to require NRC notification and prior approval in accordance with 10 CFR 50.80 in order to ensure that the transferee is appropriately qualified. For example, the NRC determines whether the surviving organization will remain an "electric utility" as defined in 10 CFR 50.2.

In consideration of these concerns, the NRC will be evaluating deregulation and restructuring activities as they evolve. The NRC will take all appropriate actions to carry out its mission to protect the health and safety of the public and, to the extent of its statutory mandate, to ensure consistency with Federal antitrust laws.

The NRC intends to implement policies and take action as described in this policy statement to ensure that its power reactor licensees remain responsible for safe operations and decommissioning. In summary, the NRC will:

- (1) Continue to conduct its financial qualifications, decommissioning funding and antitrust reviews as described in the Standard Review Plans being developed in concert with this policy statement;
- (2) Identify all owners, indirect as well as direct, of nuclear power plants;
- (3) Establish and maintain staff-level working relationships with State and Federal rate regulators;
- (4) Evaluate the relative responsibilities of power plant co-owners/co-licensees; and
- (5) Reevaluate its regulations for their adequacy to address changes resulting from rate deregulation.

cooperatives, and State and Federal agencies, including associations of any of the foregoing, are included within the meaning of "electric utility."

² See Possible Safety Impacts of Economic Performance Incentives: Final Policy Statement, (56 FR 33945, July 24, 1991), for the NRC's concerns relating to State economic performance incentive standards and programs. The NRC understands that States instituted many of these programs as a means of encouraging electric utilities to lower electric rates to consumers. As States deregulate electric utilities under their jurisdictions, these economic performance incentive programs ultimately may be replaced by full market competition.

IV. Issues Related to Restructuring and Economic Deregulation of the Electric Utility Industry

The NRC believes that its regulatory framework is generally sufficient to address many of the restructurings and reorganizations that will likely arise as a result of electric utility deregulation. In many instances, the NRC's review process will follow the current framework, or will otherwise follow policies consistent with the NRC's current regulations. However, the NRC believes that several other policy issues need to be further evaluated and options developed. Therefore, this section addresses NRC policies with respect to electric utility restructuring and economic deregulation both as these policies can be carried out under current regulations and as matters under consideration for further resolution.

A. NRC Responsibilities vis-a-vis State and Federal Economic Regulators

The NRC has recognized the primary role that State and Federal economic regulators serve in setting rates that include appropriate levels of funding for safe operation and decommissioning. For example, the preamble to the 1988 decommissioning rule stated: "The rule, and the NRC's implementation of it, does not deal with financial ratemaking issues such as rate of fund collection, procedures for fund collection, cost to ratepayers, taxation effects, equitability between early and late ratepayers, accounting procedures, ratepayer versus stockholder considerations, responsiveness to change and other similar concerns." * * *. These matters are outside NRC's jurisdiction and are the responsibility of the State PUCs and [the Federal Energy Regulatory Commission] FERC" (53 FR at 24038; June 27, 1988).

Notwithstanding the primary role of economic regulators in rate matters, the NRC has authority under the Atomic Energy Act of 1954, as amended, (AEA) to take actions that may affect a licensee's financial situation when these actions are warranted to protect public health and safety. To date, the NRC has found no significant instances where State or Federal rate regulation has led to disallowance of funds for safety-related operational and decommissioning expenses. Some rate regulators may have chosen to reduce allowable profit margins through rate disallowances, or licensees have for other reasons encountered financial difficulty.

In order for the NRC to make its safety views known and to encourage rate regulators to continue their practice of

allowing adequate expenditures for nuclear plant safety as electric utilities face deregulation, the NRC intends to take a number of actions to increase cooperation with State and Federal rate and financial regulators to promote dialogue and minimize the possibility of rate deregulation or other actions that would have an adverse safety impact. We intend to work and consult with the State FUCs through the National Association of Regulatory Utility Commissioners (NARUC), and with FERC and the Securities and Exchange Commission (SEC) to coordinate activities and exchange information.

B. Co-owner Division of Responsibility

Many of the NRC's power reactor licensees own their plants jointly with other, non-related organizations. Although some co-owners may be only authorized to possess the nuclear facility and its nuclear material, and not to operate it, the NRC views all co-owners as co-licensees who are responsible for complying with the terms of their licenses. Public Service Company of Indiana, Inc. (Marble Hill Nuclear Generating Station, Units 1 & 2), ALAB-459, 7 NRC 179, 200-201 (1978). The NRC is concerned about the effects on the availability of operating and decommissioning funds, and about the division of responsibility for operating and decommissioning funds, when co-owners file for bankruptcy or otherwise encounter financial difficulty.³ The NRC is evaluating courses of action to ensure that operating and decommissioning costs are paid by owners.

C. Financial Qualifications Reviews

The NRC believes that the existing regulatory framework contained in § 50.33(f) and in the guidance in 10 CFR part 50, appendix C, is generally sufficient at this time to provide reasonable assurance of the financial qualifications of both electric utility and non-electric utility applicants and licensees under the various ownership arrangements of which the staff is currently aware. Licensees that remain "electric utilities" will not be subject to NRC financial qualifications review.

³ The NRC has had experience with 3 licensees who have had much greater than de minimis shares of nuclear power plants and who filed under Chapter 11 of the U.S. Bankruptcy Code: Public Service Company of New Hampshire (PSNH), a co-owner and operator of the Seabrook plant; El Paso Electric Company (EPEC), a co-owner of the Palo Verde plant; and Cajun Electric Power Cooperative (Cajun), a co-owner of the River Bend plant. Both PSNH and EPEC continued their pro rate contributions for the operating and decommissioning expenses for their plants and successfully emerged from bankruptcy. Cajun remains in bankruptcy.

other than to determine that such licensees, in fact, remain "electric utilities." However, the NRC is evaluating the need to develop additional requirements to ensure against potential dilution of capability for safe operation and decommissioning that could arise from rate deregulation and restructuring.

Section 184 of the Atomic Energy Act and 10 CFR 50.80 provide that no license shall be transferred, directly or indirectly, through transfer of control of the license, unless the Commission consents in writing. The NRC intends to review transfers to determine their potential impact on the licensee's ability both to maintain adequate technical qualifications and organizational control and authority over the facility and to provide adequate funds for safe operation and decommissioning. Such consent is clearly required where a corporate entity seeks to transfer a license it holds to a different corporate entity. See Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1) CLJ-92-4, 35 NRC 69 (1992). The NRC staff has advised licensees that agency consent should be sought and obtained under § 50.80 for the formation of a new holding company over an existing licensee. Other types of transactions, including those involving transfers of operating authority or responsibility to non-licensed organizations, have been considered by the staff on a case by case basis to determine whether § 50.80 consent is required. The NRC is evaluating what types of transfers or restructurings should be subject to § 50.80 review. Effective December 28, 1995, all orders approving § 50.80 transfers have been signed by the Director, Office of Nuclear Reactor Regulation. The NRC staff will inform the Commission of unique or unusual licensee restructuring actions.

D. Decommissioning Funding Assurance Compliance Reviews

The NRC believes that the existing decommissioning funding assurance provisions in § 50.75 generally provide an adequate regulatory basis for new licensees to provide reasonable assurance of decommissioning funds. However, to address this and other issues related to decommissioning funding assurance in anticipation of rate deregulation, the NRC published an advance notice of proposed rulemaking (ANPR) (61 FR 15427; April 8, 1996).

E. Antitrust Reviews

The NRC must be able to accurately identify all owners of its licensees to meaningfully assess whether there have been "significant changes" since the

licensing reviews: The NRC anticipates that competitive reviews over the next 5 to 10 years will arise primarily from changes in control of licensed facilities. The regulatory review addressing transfer of control of licenses under 10 CFR 50.80 will be used to determine whether new owners or operators will be subject to an NRC significant change review with respect to antitrust matters.

Electronic Access

Comments may be submitted electronically, in either ASCII text or WordPerfect format (version 5.1 or later), by calling the NRC electronic Bulletin Board (BBS) on FedWorld. The bulletin board may be accessed by using a personal computer, a modem, and one of the commonly available communications software packages, or directly via Internet. Background documents on the draft policy statement are also available, as practical, for downloading and viewing on the bulletin board.

If using a personal computer and modem, the NRC Rulemaking subsystem on FedWorld can be accessed directly by dialing the toll free number (800) 303-9672. Communication software parameters should be set as follows: parity to none, data bits to 8, and stop bits to 1 (N,8,1). Using ANSI or VT-100 terminal emulation, the NRC Rulemaking subsystem can then be accessed by selecting the "Rules Menu" option from the "NRC Main Menu." Many NRC subsystems and data bases also have a "Help/Information Center" option that is tailored to the particular subsystem.

The NRC subsystem on FedWorld can also be accessed by a direct dial telephone number for the main FedWorld BBS, (703) 321-3339, or by using Telnet via Internet: fedworld.gov. If using (703) 321-3339 to contact FedWorld, the NRC subsystem will be accessed from the main FedWorld menu by selecting the "Regulatory, Government Administration and State Systems," then selecting "Regulatory Information Mail." At that point, a menu will be displayed that has an option "U.S. Nuclear Regulatory Commission" that will take you to the NRC Online main menu. The NRC Online area also can be accessed directly by typing "/go nrc" at a FedWorld command line. If you access NRC from FedWorld's main menu, you may return to FedWorld by selecting the "Return to FedWorld" option from the NRC Online Main Menu. However, if you access NRC at FedWorld by using NRC's toll-free number, you will have full access to all NRC systems, but you

will not have access to the main FedWorld system.

If you contact FedWorld using Telnet, you will see the NRC area and menus, including the Rules Menu. Although you will be able to download documents and leave messages, you will not be able to write comments or upload files (comments). If you contact FedWorld using FTP, all files can be accessed and downloaded but uploads are not allowed; all you will see is a list of files without descriptions (normal Gopher look). An index file listing all files within a subdirectory, with descriptions, is available. There is a 15-minute time limit for FTP access.

Although FedWorld can also be accessed through the World Wide Web, like FTP that mode only provides access for downloading files and does not display the NRC Rules Menu.

For more information on NRC bulletin boards call Mr. Arthur Davis, Systems Integration and Development Branch, NRC, Washington, DC 20555, telephone (301) 415-5780; e-mail AXD3@nrc.gov.

Dated at Rockville, Maryland, this 16th day of September 1996.

For the Nuclear Regulatory Commission.

John C. Hoyle,

Secretary of the Commission.

(FR Doc. 96-24275 Filed 9-20-96; 8:45 am)

BILLING CODE 7560-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Parts 106 and 107

[Docket No. 95N-0309]

RIN 0910-AA04

Current Good Manufacturing Practice, Quality Control Procedures, Quality Factors, Notification Requirements, and Records and Reports, for the Production of Infant Formula; Extension of Comment Period

AGENCY: Food and Drug Administration, HHS.

ACTION: Proposed rule; extension of comment period.

SUMMARY: The Food and Drug Administration (FDA) is extending to December 6, 1996, the comment period on the proposed rule that published in the Federal Register of July 9, 1996 (61 FR 36154). The document proposed to revise FDA's infant formula regulations. The agency is taking this action in response to a request for an extension of the comment period. This extension is

intended to allow interested persons additional time to submit comments to FDA on the proposed regulations.

DATES: Written comments by December 6, 1996.

ADDRESSES: Submit written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, 12420 Parklawn Dr., rm. 1-23, Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Carolyn W. Miles, Center for Food Safety and Applied Nutrition (HFS-456), 200 C St. SW., Washington, DC 20204, 202-401-9858.

SUPPLEMENTARY INFORMATION: In the Federal Register of July 9, 1996 (61 FR 36154), FDA issued a proposed rule to revise its infant formula regulations to establish requirements for quality factors and current good manufacturing practice (CGMP); to amend its requirements on quality control procedures, notification, and records and reports; to require that infant formulas contain, and be tested for, certain nutrients, be tested for any nutrients added by the manufacturer throughout their shelf life, and be produced under strict microbiological controls; to require that manufacturers implement the CGMP and quality control procedure requirements by establishing a production and in-process control system of their own design; and to implement certain notification requirements in the Federal Food, Drug, and Cosmetic Act. Interested persons were given until October 7, 1996, to comment on the proposed rule.

FDA received a request for an extension of the comment period on its proposed rule to revise its infant formula regulations. After careful consideration, FDA has decided to extend the comment period to December 6, 1996, to allow additional time for the submission of comments on the proposed revisions to its infant formula regulations.

Interested persons may, on or before December 6, 1996, submit to Dockets Management Branch (address above) written comments regarding this proposal. Two copies of any comments are to be submitted, except that individuals may submit one copy. Comments are to be identified with the docket number found in brackets in the heading of this document. Received comments may be seen in the office above between 9 a.m. and 4 p.m., Monday through Friday.



Selected NRC Documents

EFFECTS OF ELECTRIC INDUSTRY DEREGULATION ON NUCLEAR POWER PLANTS

Background

The Public Utility Regulatory Policies Act of 1978 and the Energy Policy Act of 1992 have opened the way for a number of State Public Utility Commissions (PUCs) and the Federal Energy Regulatory Commission (FERC) to initiate actions leading to the deregulation of the electric utility industry. The industry is moving away from traditional rate based regulation toward increased competition. This could potentially have profound impacts on the long-term ability of NRC's power reactor licensees to obtain adequate funds to operate and to decommission their plants safely. Although the NRC is not normally involved in economic or rate regulation, we have recognized over the years a possible relationship between access to capital and safety of operations. While there is much evidence that an efficiently operated facility is a safe facility, we must be increasingly vigilant to ensure that economic pressures do not result in a degradation in safety at operating plants.

Areas of NRC Concern

The NRC needs to ensure that adequate provision is made for decommissioning funding whether nuclear plants operate to the end of their license terms, or are shut down prematurely. In addition, given the potential for significant early recapture of capital investment, and reduced access to ratepayers that deregulation may engender for nuclear power reactor licensees, some increase in financial qualifications monitoring may be appropriate as electric utilities are deregulated. The NRC needs to be apprised in a timely manner of any potential changes to ownership or control of licensed facilities that could affect safety or NRC safety oversight, and whether significant changes in the organizational and/or financial support for each plant are contemplated.

Traditionally, the electric utility industry has functioned as a regulated monopoly, providing essential electrical services under an exclusive franchise in exchange for having rates closely regulated by State Public Utility PUCs and FERC. Primarily due to this established economic regulatory process, the NRC has exercised limited financial oversight (of electric utility licensees). The NRC also allows electric utility licensees, unlike most other licensees, to accumulate funds for decommissioning over the 40-year terms of their operating licenses. However, with the advent of deregulation, the NRC's assumptions regarding assurance of access to funds must be reevaluated. Some policies may need to change as a result of this reassessment.

In the fall of 1995 the NRC initiated a re-evaluation of NRC policy regarding decommissioning funding. The staff was directed to develop a comprehensive action plan to provide a framework for this re-evaluation. One element of the action plan was to issue an advance notice of proposed rulemaking, issued in April 1996, seeking additional information on electric utility restructuring and comments on additional measures to ensure adequate decommissioning funding.

The NRC is also considering issuance of policy guidance on specific actions planned in response to deregulation initiatives. This guidance would include: (1) a discussion of safety concerns with respect to electric utility deregulation; (2) a discussion of the current regulatory framework with respect to the conduct of financial qualifications, antitrust, and decommissioning funding assurance reviews for the mergers, holding companies, and other restructurings seen so far; and (3) a discussion of the planned approach to future reviews as rate deregulation accelerates. This will include possible rule changes to NRC regulations covering evaluation of transfers of control, which are perceived to include asset transfers and restructurings. As another part of this second issue, the NRC plans to address its responsibilities vis-a-vis State and Federal rate regulators and the NRC view of the responsibilities of

co-owners of nuclear plants.

The NRC recognizes the role of PUCs and FERC in rate matters; but also recognizes that the NRC must meet its statutory mandate to protect public health and safety. We are actively pursuing increased contacts with the PUCs, through the National Association of Regulatory Utility Commissioners, with FERC, and with the SEC to broaden areas of cooperation where our interests and responsibilities overlap.

Because of the complexity of new business arrangements that have been proposed or discussed, and because of our concern about the timing of asset divestiture in relation to rate deregulation, the NRC will be taking a more proactive role in informing licensees of their obligation to report new ownership arrangements. Where appropriate, the NRC will seek additional information to determine whether licensees remain electric utilities as the NRC defines that term; or conversely, whether some mechanism must be put into place to ensure decommissioning fund collection.

CONTACT:

Ralph Architzel, Chief, Environmental/Financial Section, Generic Issues and Environmental Projects Branch, NRR, USNRC, Washington, DC 20555, (301)415-2804

HIGHLIGHTS

Economic deregulation and restructuring in the electric utility industry could potentially have profound impacts on the long-term ability of power reactor licensees to obtain adequate funds to operate and to decommission their plants safely.

The NRC needs to ensure that adequate decommissioning funding is available whether nuclear plants operate to the end of their license terms, or they shut down prematurely. Also some increase in financial qualifications monitoring is appropriate as electric utilities are deregulated.

In April 1996 the NRC issued an advance notice of proposed rulemaking, seeking additional information on restructuring and comments on additional measures to ensure adequate decommissioning funding. There may be rule changes to NRC regulations covering evaluation of transfers of control, which are perceived to include asset transfers and restructurings.

The NRC is actively pursuing increased contacts with state PUCs through the National Association of Regulatory Utility Commissioners, and with FERC and SEC to broaden areas of cooperation where our interests and responsibilities overlap.

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NRC Technical Issues Papers

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DECOMMISSIONING NUCLEAR POWER PLANTS

Background

Several licensees have announced their decisions to permanently cease power operation of their nuclear power plants. The licensees' decisions have been based on economic and technical considerations. Thus, these facilities and several others have entered the decommissioning process before their operating licenses expire, earlier than originally anticipated. Decommissioning highlights for individual plants are presented in Tables 1 and 2.

Decommissioning

Title 10 of the Code of Federal Regulations, Section 50.2 (10 CFR 50.2), defines decommissioning as the safe removal of a facility from service and reduction of residual radioactivity to a level that permits release of the property for unrestricted use and termination of the license. Decommissioning involves three different alternatives: DECON, SAFSTOR, or ENTOMB.

Under DECON (immediate dismantlement), equipment, structures, and portions of the facility containing radioactive contaminants are removed or decontaminated to a level that permits release for unrestricted use and termination of the license.

Under SAFSTOR, often considered "delayed DECON," a nuclear facility is maintained in a condition that allows the decay of radioactivity to reduce radiation levels at the facility; afterwards, it is dismantled.

Under ENTOMB, radioactive contaminants are encased in a structurally long-lived material such as concrete and the entombed structure is appropriately maintained and monitored until the radioactivity decays to a level permitting unrestricted release of the property.

To be acceptable, the method selected must provide for completion of decommissioning within 60 years. A time beyond 60 years will be considered only when necessary to protect public health and safety in accordance with Nuclear Regulatory Commission (NRC) regulations.

Other rulemakings that are anticipated in the decommissioning area include a revision of regulations to address spent fuel cooling periods and indemnity issues; decommissioning costs, funding, and financial assurance.

Prematurely Shutdown Plants

Since the original decommissioning rule was published in 1988, seven power reactor facilities have shut down prematurely:

- ☐ Fort St. Vrain Nuclear Generating Station,
- ☐ Shoreham Nuclear Power Station,
- ☐ Rancho Seco Nuclear Generating Station,
- ☐ Yankee Rowe Nuclear Station,
- ☐ San Onofre Nuclear Generating Station, Unit 1,
- ☐ Trojan Nuclear Plant, and

☐ Haddam Neck Plant.

Three Mile Island Nuclear Station, Unit 2, also ceased operation after the March 28, 1979, accident. In addition, Indian Point Nuclear Generating Station Unit 1 and Dresden Nuclear Power Station Unit 1, Humboldt Bay Power Plant Unit 3, and LaCrosse Boiling Water Reactor, which were shut down in 1974, 1978, 1980, and 1987, respectively, are in the decommissioning process.

Approved Decommissioning Plans

In June 1992, the NRC issued an order to Long Island Power Authority, approving the Shoreham decommissioning plan. Long Island Power Authority announced completion of dismantlement of the facility in October 1994.

In November 1992, the NRC issued an order approving the Fort St. Vrain decommissioning plan and dismantlement activities are nearly completed.

The NRC approved Yankee Rowe's decommissioning plan on February 14, 1995. Subsequently, due to a U.S. Court of Appeals ruling, the Commission rescinded its approval on October 12, 1995. A hearing was conducted and on October 18, 1996, the Commission denied the most recent petition regarding the decommissioning plan. On October 28, 1996, the NRC staff informed Yankee Atomic that decommissioning activities may be conducted at Yankee Rowe.

On June 16, 1993, the NRC staff issued its safety evaluation and environmental assessment of the Rancho Seco decommissioning plan. The plan proposes safe storage (SAFSTOR) of the facility for about 20 years followed by dismantlement and decontamination. Approval of the decommissioning plan was delayed because of contentions raised by the Environmental and Resources Conservation Organization (ECO). However, ECO reached a settlement with the Sacramento Municipal Utility District, the licensee for Rancho Seco, and on August 1, 1994, withdrew from the proceeding. The staff reviewed and updated its previous safety evaluation and issued the order authorizing decommissioning of Rancho Seco on March 20, 1995.

On April 15, 1996, the NRC issued an order approving the Trojan decommissioning plan and dismantlement activities are ongoing.

NRR/NMSS Memorandum of Understanding on Decommissioning

On March 15, 1995, the Office of Nuclear Reactor Regulation (NRR) and the Office of Nuclear Material Safety and Safeguards (NMSS) reached agreement on a realignment of certain responsibilities regarding power reactor decommissioning. In the future, NRR will maintain project management responsibility for power reactor facilities until fuel is permanently transferred from the spent fuel pool.

CONTACT:

Seymour H. Weiss, Non-Power Reactors and Decommissioning Project Directorate, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, (301) 415-2170

DECOMMISSIONING HIGHLIGHTS

Table 1

INDIAN POINT UNIT 1

- ☐ October 31, 1974, plant was permanently shut down because its emergency core cooling system did not meet current regulatory requirements.

- ☐ January 1976, reactor was defueled.
- ☐ June 19, 1980, NRC order revoked authority to operate plant.
- ☐ October 17, 1980, licensee submitted proposed decommissioning plan. NRC review has been ongoing since then and has prompted numerous supplemental licensee submittals.
- ☐ January 1996, the proposed decommissioning plan was submitted to Commission for approval.

HUMBOLDT BAY POWER PLANT UNIT 3

- ☐ July 2, 1976, plant was shut down due to seismic issues.
- ☐ July 30, 1984, Decommissioning Plan submitted.
- ☐ July 19, 1988, SAFSTOR Decommissioning Plan approved. Spent fuel (390 assemblies) will remain onsite in the spent fuel pool until a federal repository is available for it.

DRESDEN UNIT 1

- ☐ October 31, 1978, plant was shut down to meet new federal regulations and to perform chemical decontamination of major piping systems.
- ☐ January 7, 1986, while plant was still out of service, licensee announced its decision to decommission the plant, rather than comply with regulations imposed in response to the March 1979 accident at Three Mile Island Unit 2.
- ☐ July 23, 1986, license was amended to possession only license (POL) status.
- ☐ September 3, 1993, decommissioning plan was approved.
- ☐ January 25, 1994, licensee personnel discovered about 55,000 gallons of water in the containment building. The source of the water was a service water line which had frozen and ruptured within the unheated containment. The water was pumped from the containment building for processing by the site radwaste system. The NRC responded by conducting a two-week special team inspection that identified numerous discrepancies that the licensee had to address.
- ☐ July 13, 1994, licensee submitted a check for \$200,000 in response to the NRC-imposed civil penalty for its failure to maintain required systems and to staff unit in accordance with Dresden Unit 1 decommissioning plan.

LA CROSSE

- ☐ April 30, 1987, plant was permanently shut down.
- ☐ August 7, 1991, SAFSTOR decommissioning plan was approved.

FORT ST. VRAIN

- ☐ August 18, 1989, plant was permanently shut down because of failure of the control rod drives and degradation of the steam generator ring header.
- ☐ May 21, 1991, license was amended to possession only license (POL) status.
- ☐ June 11, 1992, all fuel was placed in an onsite independent spent fuel storage installation (ISFSI).
- ☐ November 23, 1992, NRC issued order approving licensee decommissioning plan.
- ☐ September 1, 1993, removal of the prestressed concrete reactor vessel top head was completed.
- ☐ April 1, 1994, all of the graphite reflector blocks had been removed from the reactor vessel and shipped to the low level waste burial site at Hanford, Washington.
- ☐ July 1, 1996, dismantlement is nearly complete.

SHOREHAM

- ☐ June 28, 1989, licensee's shareholders approved agreement with the New York State to not operate the facility.
- ☐ August 24, 1989, reactor vessel was defueled.

- June 14, 1991, license was amended to POL status.
- February 29, 1992, license was transferred to Long Island Power Authority for decommissioning of plant.
- June 11, 1992, NRC issued order approving licensee decommissioning plan.
- September 1993, transfer of fuel to Limerick began. Fuel transfer was completed June 1994.
- October 1994, the licensee announced completion of the dismantlement. Confirmatory surveys conducted.
- April 11, 1995, decommissioning complete, POL terminated.

RANCHO SECO

- June 7, 1989, plant was shut down because voters approved non-binding referendum prohibiting licensee from operating facility.
- December 8, 1989, reactor vessel was defueled.
- March 17, 1992, license was amended to POL status.
- Environmental and Resources Conservation Organization (ECO) was active intervenor in regards to proposed decommissioning plan.
- June 16, 1993, NRC issued safety evaluation and environmental assessment of proposed decommissioning plan.
- November 30, 1993, the Atomic Safety and Licensing Board (ASLB) admitted for hearing certain contentions associated with decommissioning funding and costs of Rancho Seco independent spent fuel storage installation.
- August 1, 1994, ECO reached settlement with Sacramento Municipal Utility District and filed notice of withdrawal; ASLB terminated proceeding.
- September 2, 1994 Commission order (CLI-94-14) authorized NRC staff to issue decommissioning order.
- March 20, 1995, NRC approved the decommissioning plan for SAFSTOR by issuing the decommissioning order.

YANKEE ROWE

- October 1, 1991, plant was shut down and vessel defueled because of concerns about reactor vessel integrity.
- February 27, 1992, licensee announced permanent cessation of operations because of inability to address uncertainties associated with the safety margin of the reactor vessel.
- August 5, 1992, license was amended to POL status.
- July 15, 1993, NRC stated it had "no objection to early component removal activities" proposed by the licensee.
- November 16 to December 8, 1993, as part of the early component removal activities, the four steam generators and pressurizer were shipped from the plant to the low level waste burial site in Barnwell, South Carolina.
- March 11, 1994, NRC stated it had "no objection" to use of decommissioning trust funds for proposed second phase of activities associated with early removal of components, including reactor coolant pumps, contaminated piping, and asbestos. Activities were completed by June 30, 1994.
- March 31, 1994, Citizens Awareness Network (CAN) filed a complaint in the Massachusetts District Federal Court claiming the NRC did not follow National Environmental Protection Act (NEPA) in its review of licensee's early component removal program. The court denied the complaint on jurisdictional grounds; however, CAN appealed to the U.S. Court of Appeals for the First Circuit in Boston.
- February 14, 1995, NRC approved the decommissioning plan for SAFSTOR.
- March 23, 1995, Yankee Atomic applied for a (10 CFR 71) license to enable shipment of the reactor vessel. The vessel will not be shipped before summer 1996.
- July 20, 1995, First Circuit found that the Commission erred when it rejected CAN's request for a hearing on the component removal program, that CAN was entitled to a hearing under section 189a of the Atomic Energy Act, and that the NRC had violated NEPA by permitting YAEC to initiate the component removal program before the agency had prepared an

environmental assessment or impact statement. The Court remanded the case to the Commission for further action.

- October 27, 1995, in response to the July 1995 Court of Appeals decision, the NRC staff issued a Federal Register notice offering the public an opportunity for hearing.
- November 30, 1995, CAN and the New England Coalition on Nuclear Pollution submitted a joint petition to intervene on the Yankee decommissioning plan.
- October 18, 1996, the Commission issued an order which denied CAN's latest petition regarding the decommissioning plan.
- October 28, 1996, the NRC staff informed Yankee Atomic that decommissioning activities may be conducted at Yankee Rowe.

THREE MILE ISLAND UNIT 2

- March 28, 1979, accident occurred in the plant that caused permanent cessation of operations.
- January 30, 1990, reactor was defueled.
- August 12, 1993, processing of accident-generated water was completed.
- September 14, 1993, POL amendment was issued.
- December 28, 1993, post-defueling monitored storage technical specifications were issued.

SAN ONOFRE, UNIT 1

- November 30, 1992, based on settlement agreement with California Public Utilities Commission licensee permanently shut down plant rather than bring it into compliance with current NRC safety requirements.
- October 23, 1992, POL amendment was issued. Amendment became effective March 9, 1993, when reactor vessel was certified as completely defueled.
- December 28, 1993, permanently defueled technical specifications were issued.
- November 3, 1994, licensee submitted proposed decommissioning plan for NRC review.

TROJAN

- January 4, 1993, licensee announced permanent cessation of operations.
- January 27, 1993, reactor was defueled.
- May 5, 1993, NRC issued POL amendment.
- November 1994, licensee commenced removal of steam generators and pressurizer for shipment to the U.S. Ecology low level waste burial site at Hanford, Washington.
- January 26, 1995, licensee submitted proposed decommissioning plan.
- November 1, 1995, licensee completed the large component removal project.
- December 22, 1995, NRC staff published *Federal Register* notice offering opportunity for public comment on Environmental Assessment and Safety Evaluation for the decommissioning plan. The 30-day comment period passed without a request for hearing.
- March 31, 1996, permanently defueled technical specifications were issued.
- April 15, 1996, NRC issued the order approving the decommissioning plan.

HADDAM NECK

- December 4, 1996, licensee announced permanent cessation of operations.

BIG ROCK POINT

- May 31, 2000, is expiration date of current license.
- February 27, 1995, licensee submitted SAFSTOR decommissioning plan for early NRC review.
- February 14, 1996, Consumers Power Company requested that the NRC defer review of the Big Rock Point decommissioning plan until after issuance of the revised 10 CFR Part 50 decommissioning regulations.

Table 2

REACTOR DECOMMISSIONING STATUS SHUTDOWN POWER REACTORS

Reactor	Type	Thermal Power	Location	Shutdown	Status	Fuel Onsite
Indian Point 1	PWR	615 MW	Buchanan NY	10/31/74	SAFSTOR	Yes
Dresden 1	BWR	700 MW	Morris IL	10/31/78	SAFSTOR	Yes
Fermi 1	Fast Breeder	200 MW	Monroe Co. MI	9/22/72	SAFSTOR	No
GE VBWR	BWR	50 MW	Alameda Co. CA	12/9/63	SAFSTOR	No
Yankee Rowe	PWR	600 MW	Franklin Co. MA	10/1/91	DECON	Yes
CVTR	Pressure Tube, Heavy Water	65 MW	Port SC	1/67	SAFSTOR	No
Pathfinder	Superheat BWR	190 MW	Sioux Falls SD	9/16/67	DECON NRC Part 30	No
Humboldt Bay 3	BWR	200 MW	Eureka CA	7/02/76	SAFSTOR	Yes
Peach Bottom 1	HTGR	115 MW	York Co. PA	10/31/74	SAFSTOR	No
San Onofre 1	PWR	1347 MW	San Clemente CA	11/30/92	SAFSTOR	Yes
Haddam Neck	PWR	1825 MW	Haddam Neck CT	7/22/96	Decision Pending	Yes
Fort St. Vrain	HTGR	842 MW	Platteville CO	8/18/89	DECON	Yes
Rancho Seco	PWR	2772 MW	Sacramento CA	6/7/89	SAFSTOR	Yes
Three Mile Island 2	PWR	2772 MW	Middletown PA	3/28/79	SAFSTOR*	No
Shoreham	BWR	2436 MW	Suffolk Co. NY	6/28/89	License Terminated	No
Trojan	PWR	3411 MW	Portland OR	11/9/92	DECON	Yes
LaCrosse	BWR	165 MW	LaCrosse WI	4/30/87	SAFSTOR	Yes

* Post-defueling monitored storage (PDMS).

DECOMMISSIONING NUCLEAR POWER PLANTS

Background

Several licensees have announced their decisions to permanently cease power operation of their nuclear power plants. The licensees' decisions have been based on economic and technical considerations. Thus, these facilities and several others have entered the decommissioning process before their operating licenses expire, earlier than originally anticipated. Decommissioning highlights for individual plants are presented in Tables 1 and 2.

Decommissioning

Title 10 of the Code of Federal Regulations, Section 50.2 (10 CFR 50.2), defines decommissioning as the safe removal of a facility from service and reduction of residual radioactivity to a level that permits release of the property for unrestricted use and termination of the license. Decommissioning involves three different alternatives: DECON, SAFSTOR, or ENTOMB.

Under DECON (immediate dismantlement), equipment, structures, and portions of the facility containing radioactive contaminants are removed or decontaminated to a level that permits release for unrestricted use and termination of the license.

Under SAFSTOR, often considered "delayed DECON," a nuclear facility is maintained in a condition that allows the decay of radioactivity to reduce radiation levels at the facility; afterwards, it is dismantled.

Under ENTOMB, radioactive contaminants are encased in a structurally long-lived material such as concrete and the entombed structure is appropriately maintained and monitored until the radioactivity decays to a level permitting unrestricted release of the property.

To be acceptable, the method selected must provide for completion of decommissioning within 60 years. A time beyond 60 years will be considered only when necessary to protect public health and safety in accordance with Nuclear Regulatory Commission (NRC) regulations.

Regulations

The procedure for decommissioning a nuclear power plant is set out principally in NRC regulations 10 CFR Parts 50.75, 50.82, 51.53, and 51.95. An underlying assumption embodied in the regulations when the Commission issued the original decommissioning regulations in 1988 was that decommissioning would occur after the facility operating license expired. Five

years before the licensee expected to end operation of the plant, it was obligated to submit a preliminary decommissioning plan containing a cost estimate for decommissioning and an up-to-date assessment of the major technical factors that could affect planning for decommissioning. Then, within one year before expiration of the license, (or two years after operation for plants closing before their license expires) a licensee had to submit to NRC an application for authority to decommission that facility, together with an environmental report covering the proposed decommissioning activities. However, several licensees have permanently ceased operations prematurely without having submitted the documentation required under the regulations. In addition, these licensees requested exemptions from some safety requirements to reflect their status of no longer having fuel present in the reactor. Because the regulations did not specifically address prematurely shutdown facilities, these situations were handled on a case-by-case basis.

Throughout fiscal years 1995 and 1996, the NRC staff worked on revisions to NRC regulations to clarify their applicability and to make certain changes in decommissioning policy regarding permanently shut down reactors. On July 20, 1995, the Commission issued a "Notice of Proposed Rulemaking on Decommissioning of Nuclear Power Plants." On July 2, 1996, the Commission approved the final rule. The rule was published in the *Federal Register* July 29 and became effective 30 days from the date of publication (on August 28, 1996). The final rule redefines the decommissioning process, defines terminology related to decommissioning, requires licensees to provide the NRC with early notification of planned decommissioning activities at their facilities, and explicitly sets forth the applicability of certain NRC requirements to permanently shutdown reactors.

The Commission believes the amendments will enhance efficiency and uniformity in the decommissioning process for nuclear power reactors. The amendments allow for public participation in the decommissioning process and furnish the licensed community and the public a better understanding of the process as the operating personnel at a nuclear power reactor facility undergo the transition from an operating organization to a decommissioning organization.

The revisions to 10 CFR 2, 50, and 51 related to the final rule on decommissioning power reactors require that:

- (a) Within 30 days after a nuclear power plant licensee decides to cease operations permanently, the licensee must submit a written certification to the NRC, and
- (b) When the licensee permanently removes nuclear fuel from the reactor vessel, the licensee must submit another written certification to the NRC.

When NRC receives these certifications, the licensee's authority to operate the reactor or load fuel into the reactor vessel will be removed by regulation. This will entitle the licensee to an annual fee reduction and eliminate the obligation to adhere to certain requirements needed only during reactor operation. Within two years after submitting the certification of permanent cessation of operations, the licensee must submit a post-shutdown decommissioning activities report (PSDAR) to the NRC. This report must provide a description of the licensee's planned decommissioning activities, along with a schedule for accomplishing them, and an estimate of the expected costs.

In the PSDAR, the licensee is required to discuss the reasons for concluding that environmental impacts associated with the site-specific decommissioning activities have already been considered in environmental reports or environmental impact statements prepared previously. If this has not been done, the licensee would have to request a license amendment for approval of the activities and submit to the NRC an environmental report on the additional impacts.

After receiving a PSDAR, the NRC must publish a notice of receipt, make the PSDAR available for public review and comment, and hold a public meeting in the vicinity of the plant to discuss the licensee's intentions.

Ninety days after the NRC receives the PSDAR, and generally 30 days after the public meeting, the licensee can begin to perform major decommissioning activities without specific NRC approval. These activities could include permanent removal of such major components as the reactor vessel, steam generators, large piping systems, pumps, and valves.

The final regulations state that decommissioning activities conducted without specific prior NRC approval must not:

- foreclose release of the site for possible unrestricted use,
- result in there being no reasonable assurance that adequate funds will be available for decommissioning,
- cause any significant environmental impact not previously reviewed.

If any decommissioning activity could not meet these terms, the licensee is required to submit a license amendment request, which would provide an opportunity for a public hearing.

Initially, the licensee could use up to three percent of the amount specified in 10 CFR 50.75 for decommissioning activities without prior NRC approval. An additional 20 percent could be expended 90 days after submittal of the PSDAR. The remaining decommissioning trust funds would be available for decommissioning activities when the licensee submits a detailed

site-specific decommissioning cost estimate to the NRC.

Rulemaking

A new rule, entitled "Safeguards for Spent Nuclear Fuel or High-Level Radioactive Waste - 10 CFR Parts 60, 72, 73, and 75" (SECY-95-104), addresses physical protection requirements for the storage of spent fuel and high level radioactive waste in a permanently shutdown reactor, independent spent fuel storage installation, monitored retrievable storage installation, or a geologic repository. The Commission published the proposed rule on August 18, 1995. After a period for public comment, a final rule was scheduled to be issued April 15, 1996. However, the NRC staff is requesting a Commission policy review of ISFSI safeguards based on public comments and staff reviews. Following the Commission policy review, the proposed rule will be revised and will be submitted for public comment if significant changes occur.

Other rulemakings that are anticipated in the decommissioning area include a revision of regulations to address spent fuel cooling periods and indemnity issues; decommissioning costs, funding, and financial assurance.

Prematurely Shutdown Plants

Since the original decommissioning rule was published in 1988, seven power reactor facilities have shut down prematurely:

- Fort St. Vrain Nuclear Generating Station,
- Shoreham Nuclear Power Station,
- Rancho Seco Nuclear Generating Station,
- Yankee Rowe Nuclear Station,
- San Onofre Nuclear Generating Station, Unit 1,
- Trojan Nuclear Plant, and
- Haddam Neck Plant.

Three Mile Island Nuclear Station, Unit 2, also ceased operation after the March 28, 1979, accident. In addition, Indian Point Nuclear Generating Station Unit 1 and Dresden Nuclear Power Station Unit 1, Humboldt Bay Power Plant Unit 3, and LaCrosse Boiling Water Reactor, which were shut down in 1974, 1978, 1980, and 1987, respectively, are in the decommissioning process.

Approved Decommissioning Plans

In June 1992, the NRC issued an order to Long Island Power Authority, approving the Shoreham decommissioning plan. Long Island Power Authority announced completion of dismantlement of the facility in October 1994.

In November 1992, the NRC issued an order approving the Fort St. Vrain decommissioning plan and dismantlement activities are nearly completed.

The NRC approved Yankee Rowe's decommissioning plan on February 14, 1995. Subsequently, due to a U.S. Court of Appeals ruling, the Commission rescinded its approval on October 12, 1995. A hearing was conducted and on October 18, 1996, the Commission denied the most recent petition regarding the decommissioning plan. On October 28, 1996, the NRC staff informed Yankee Atomic that decommissioning activities may be conducted at Yankee Rowe.

On June 16, 1993, the NRC staff issued its safety evaluation and environmental assessment of the Rancho Seco decommissioning plan. The plan proposes safe storage (SAFSTOR) of the facility for about 20 years followed by dismantlement and decontamination. Approval of the decommissioning plan was delayed because of contentions raised by the Environmental and Resources Conservation Organization (ECO). However, ECO reached a settlement with the Sacramento Municipal Utility District, the licensee for Rancho Seco, and on August 1, 1994, withdrew from the proceeding. The staff reviewed and updated its previous safety evaluation and issued the order authorizing decommissioning of Rancho Seco on March 20, 1995.

On April 15, 1996, the NRC issued an order approving the Trojan decommissioning plan and dismantlement activities are ongoing.

NRR/NMSS Memorandum of Understanding on Decommissioning

On March 15, 1995, the Office of Nuclear Reactor Regulation (NRR) and the Office of Nuclear Material Safety and Safeguards (NMSS) reached agreement on a realignment of certain responsibilities regarding power reactor decommissioning. In the future, NRR will maintain project management responsibility for power reactor facilities until fuel is permanently transferred from the spent fuel pool.

CONTACT:

Seymour H. Weiss, Non-Power Reactors and Decommissioning Project Directorate, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555, (301) 415-2170

TABLE 1

DECOMMISSIONING HIGHLIGHTS

INDIAN POINT UNIT 1

- October 31, 1974, plant was permanently shut down because its emergency core cooling system did not meet current regulatory requirements.
- January 1976, reactor was defueled.
- June 19, 1980, NRC order revoked authority to operate plant.
- October 17, 1980, licensee submitted proposed decommissioning plan. NRC review has been ongoing since then and has prompted numerous supplemental licensee submittals.
- January 1996, the proposed decommissioning plan was submitted to Commission for approval.

HUMBOLDT BAY POWER PLANT UNIT 3

- July 2, 1976, plant was shut down due to seismic issues.
- July 30, 1984, Decommissioning Plan submitted.
- July 19, 1988, SAFSTOR Decommissioning Plan approved. Spent fuel (390 assemblies) will remain onsite in the spent fuel pool until a federal repository is available for it.

DRESDEN UNIT 1

- October 31, 1978, plant was shut down to meet new federal regulations and to perform chemical decontamination of major piping systems.
- January 7, 1986, while plant was still out of service, licensee announced its decision to decommission the plant, rather than comply with regulations imposed in response to the March 1979 accident at Three Mile Island Unit 2.
- July 23, 1986, license was amended to possession only license (POL) status.
- September 3, 1993, decommissioning plan was approved.
- January 25, 1994, licensee personnel discovered about 55,000 gallons of water in the containment building. The source of the water was a service water line which had frozen and ruptured within the unheated containment. The water was pumped from the containment building for processing by the site radwaste system. The NRC responded by conducting a two-week special team inspection that identified numerous discrepancies that the licensee had to address.
- July 13, 1994, licensee submitted a check for \$200,000 in response to the NRC-imposed civil penalty for its failure to maintain required systems and to staff unit in accordance with Dresden Unit 1 decommissioning plan.

LA CROSSE

- April 30, 1987, plant was permanently shut down.
- August 7, 1991, SAFSTOR decommissioning plan was approved.

FORT ST. VRAIN

- August 18, 1989, plant was permanently shut down because of failure of the control rod drives and degradation of the steam generator ring header.
- May 21, 1991, license was amended to possession only license (POL) status.
- June 11, 1992, all fuel was placed in an onsite independent spent fuel storage installation (ISFSI).
- November 23, 1992, NRC issued order approving license decommissioning plan.
- September 1, 1993, removal of the prestressed concrete reactor vessel top head was completed.
- April 1, 1994, all of the graphite reflector blocks had been removed from the reactor vessel and shipped to the low level waste burial site at Hanford, Washington.
- July 1, 1996, dismantlement is nearly complete.

SHOREHAM

- June 28, 1989, licensee's shareholders approved agreement with the New York State to not operate the facility.
- August 24, 1989, reactor vessel was defueled.
- June 14, 1991, license was amended to POL status.
- February 29, 1992, license was transferred to Long Island Power Authority for decommissioning of plant.
- June 11, 1992, NRC issued order approving licensee decommissioning plan.
- September 1993, transfer of fuel to Limerick began. Fuel transfer was completed June 1994.
- October 1994, the licensee announced completion of the dismantlement. Confirmatory surveys conducted.
- April 11, 1995, decommissioning complete, POL terminated.

RANCHO SECO

- June 7, 1989, plant was shut down because voters approved non-binding referendum prohibiting licensee from operating facility.
- December 8, 1989, reactor vessel was defueled.
- March 17, 1992, license was amended to POL status.
- Environmental and Resources Conservation Organization (ECO) was active intervenor in regards to proposed decommissioning plan.
- June 16, 1993, NRC issued safety evaluation and environmental assessment of proposed decommissioning plan.

- November 30, 1993, the Atomic Safety and Licensing Board (ASLB) admitted for hearing certain contentions associated with decommissioning funding and costs of Rancho Seco independent spent fuel storage installation.
- August 1, 1994, ECO reached settlement with Sacramento Municipal Utility District and filed notice of withdrawal; ASLB terminated proceeding.
- September 2, 1994 Commission order (CLI-94-14) authorized NRC staff to issue decommissioning order.
- March 20, 1995, NRC approved the decommissioning plan for SAFSTOR by issuing the decommissioning order.

YANKEE ROWE

- October 1, 1991, plant was shut down and vessel defueled because of concerns about reactor vessel integrity.
- February 27, 1992, licensee announced permanent cessation of operations because of inability to address uncertainties associated with the safety margin of the reactor vessel.
- August 5, 1992, license was amended to POL status.
- July 15, 1993, NRC stated it had "no objection to early component removal activities" proposed by the licensee.
- November 16 to December 8, 1993, as part of the early component removal activities, the four steam generators and pressurizer were shipped from the plant to the low level waste burial site in Barnwell, South Carolina.
- March 11, 1994, NRC stated it had "no objection" to use of decommissioning trust funds for proposed second phase of activities associated with early removal of components, including reactor coolant pumps, contaminated piping, and asbestos. Activities were completed by June 30, 1994.
- March 31, 1994, Citizens Awareness Network (CAN) filed a complaint in the Massachusetts District Federal Court claiming the NRC did not follow National Environmental Protection Act (NEPA) in its review of licensee's early component removal program. The court denied the complaint on jurisdictional grounds; however, CAN appealed to the U.S. Court of Appeals for the First Circuit in Boston.
- February 14, 1995, NRC approved the decommissioning plan for SAFSTOR.
- March 23, 1995, Yankee Atomic applied for a (10 CFR 71) license to enable shipment of the reactor vessel. The vessel will not be shipped before summer 1996.
- July 20, 1995, First Circuit found that the Commission erred when it rejected CAN's request for a hearing on the component removal program, that CAN was entitled to a hearing under section 189a of the Atomic Energy Act, and that the NRC had violated NEPA by permitting YAEC to initiate the component removal program before the agency had prepared an environmental assessment or impact statement. The Court remanded the case to the Commission for further action.

BP24 (12/96)

- October 27, 1995, in response to the July 1995 Court of Appeals decision, the NRC staff issued a Federal Register notice offering the public an opportunity for hearing.
- November 30, 1995, CAN and the New England Coalition on Nuclear Pollution submitted a joint petition to intervene on the Yankee decommissioning plan.
- October 18, 1996, the Commission issued an order which denied CAN's latest petition regarding the decommissioning plan.
- October 28, 1996, the NRC staff informed Yankee Atomic that decommissioning activities may be conducted at Yankee Rowe.

THREE MILE ISLAND UNIT 2

- March 28, 1979, accident occurred in the plant that caused permanent cessation of operations.
- January 30, 1990, reactor was defueled.
- August 12, 1993, processing of accident-generated water was completed.
- September 14, 1993, POL amendment was issued.
- December 28, 1993, post-defueling monitored storage technical specifications were issued.

SAN ONOFRE, UNIT 1

- November 30, 1992, based on settlement agreement with California Public Utilities Commission licensee permanently shut down plant rather than bring it into compliance with current NRC safety requirements.
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- November 1, 1995, licensee completed the large component removal project.

BP24 (12/96)

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- April 15, 1996, NRC issued the order approving the decommissioning plan.

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BIG ROCK POINT

- May 31, 2000, is expiration date of current license.
- February 27, 1995, licensee submitted SAFSTOR decommissioning plan for early NRC review.
- February 14, 1996, Consumers Power Company requested that the NRC defer review of the Big Rock Point decommissioning plan until after issuance of the revised 10 CFR Part 50 decommissioning regulations.

TABLE 2

REACTOR DECOMMISSIONING STATUS
SHUTDOWN POWER REACTORS

DOCKET NO. REACTOR	THERMAL POWER	LOCATION	SHUT DOWN	PRESENT STATUS	FUEL ONSITE?
50-3 Indian Point 1 (PWR)	615 MW	Buchanan New York	10/31/74	SAFSTOR	Yes
50-10 Dresden 1 (BWR)	700 MW	Morris Illinois	10/31/78	SAFSTOR	Yes
50-16 Fermi 1 (Fast Breeder)	200 MW	Monroe Co. Michigan	9/22/72	SAFSTOR	No
150-18 GE VBWR (BWR)	50 MW	Alameda Co. California	12/9/63	SAFSTOR	No
50-29 Yankee Rowe (PWR)	600 MW	Franklin Co. Massachusetts	10/1/91	DECON	Yes
50-114 CVTR (Pressure Tube, Heavy Water)	65 MW	Parr S. Carolina	1/67	SAFSTOR	No
50-130 Pathfinder (Nuclear Superheat BWR)	190 MW	Sioux Falls South Dakota	9/16/67	DECON NRC Part 30	No
50-133 Humboldt Bay 3 (BWR)	200 MW	Eureka California	7/02/76	SAFSTOR	Yes
50-171 Peach Bottom 1 (HTGR)	115 MW	York Co. Pennsylvania	10/31/74	SAFSTOR	No
50-206 San Onofre 1 (PWR)	1347 MW	San Clemente California	11/30/92	SAFSTOR	Yes
50-213 Haddam Neck (PWR)	1825 MW	Haddam Neck Connecticut	7/22/96	Decision Pending	Yes
50-267 Fort St. Vrain (HTGR)	842 MW	Platteville Colorado	8/18/89	DECON	Yes
50-312 Rancho Seco (PWR)	2772 MW	Sacramento California	6/7/89	SAFSTOR	Yes
50-320 Three Mile Island 2 (PWR)	2772 MW	Middletown Pennsylvania	3/28/79	SAFSTOR*	No
50-322 Shoreham (BWR)	2436 MW	Suffolk Co. New York	6/28/89	License Terminated	No
50-344 Trojan (PWR)	3411 MW	Portland Oregon	11/9/92	DECON	Yes
50-409 LaCrosse (BWR)	165 MW	LaCrosse Wisconsin	4/30/87	SAFSTOR	Yes

* Post-defueling monitored storage (PDMS).

EXECUTIVE TASK MANAGEMENT SYSTEM

<<< PRINT SCREEN UPDATE FORM >>>

TASK # - 7E285

DATE - 04/22/97

MAIL CTRL. - 1997

TASK STARTED - 04/22/97

TASK DUE - 05/05/97

TASK COMPLETED - / /

TASK DESCRIPTION - LTR FROM PAT LEE, FLORIDA TO NRC RE: NARUC STAFF SUB-COMMITTEE ON DEPRECIATION PUBLIC SERVICE COMMISSION

REQUESTING OFF. - EDO

REQUESTER -

WITS - 0 FYP - N

PROG. - SCD

PERSON -

STAFF LEAD - SCD

PROG. AREA -

PROJECT STATUS -

PLANNED ACC. - N

LEVEL CODE - 2

RLB2
PHC

ACTION

EDO Principal Correspondence Control

FROM: DUE: 05/05/97 EDO CONTROL: G970285
DOC D.L. 04/16/97
FINAL REPLY:

Pat Lee
NARUC Staff Subcommittee on Depreciation
Public Service Commission, State of Florida

TO:

NRC

FOR SIGNATURE OF : ** GRN ** CRC NO: 97-0369

Bangart

DESC:

ROUTING:

SURVEY OF UTILITY COMMISSIONS RELATIVE TO THE
ISSUE OF STRANDED INVESTMENTS

Callan
Jordan
Thompson
Norry
Blaha
Burns
Collins, NRR
Cyr, OGC

DATE: 04/22/97

ASSIGNED TO: CONTACT:
SP Bangart

SPECIAL INSTRUCTIONS OR REMARKS:

97 APR 22 PM 3:19

OSP

OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET

PAPER NUMBER: CRC-97-0369 LOGGING DATE: Apr 21 97

ACTION OFFICE: EDO

AUTHOR: PAT LEE
AFFILIATION: FLORIDA

ADDRESSEE: NRC

LETTER DATE: Apr 16 97 FILE CODE:

SUBJECT: SURVEY OF UTILITY COMMISSIONS RELATIVE TO THE ISSUE
OF STRANDED INVESTMENT

ACTION: Appropriate

DISTRIBUTION: CHAIRMAN

SPECIAL HANDLING: NONE

CONSTITUENT:

NOTES:

DATE DUE:

SIGNATURE: . DATE SIGNED:
AFFILIATION: